

WHAT IS CLAIMED

1. A laminate comprising
 - 1) a substrate
 - 2) a stain resistant and adherent layer on said substrate, comprising the cross-linked reaction product of at least;
 - a) at least one amino resin cross-linking agent and either
 - b1) reactive polyester resin and
 - b2) a hydroxyl terminated polymer including repeat units from an oxetane having a pendant $-\text{CH}_2-\text{O}-(\text{CH}_2)_n-$ Rf group or
 - c) a reactive polyester resin including therein at least one repeat unit derived from copolymerizing into said polyester a hydroxyl terminated polymer including repeat units from an oxetane having a pendant $-\text{CH}_2-\text{O}-(\text{CH}_2)_n-$ Rf group, or combinations of a), b), or c),

wherein said Rf group, independently, being a linear or branched alkyl group of 1 to 20 carbon atoms and a minimum of 25 percent of the hydrogen atoms of said alkyl group being replaced by F, or said Rf group, independently, being a oxaperfluorinated or perfluorinated polyether having from 4 to 60 carbon atoms, and n being from 1 to 3 and optionally, up to 20 wt%, based on the weight of said hydroxyl terminated polymer, of a cyclic tetramer from the polymerization of an oxetane monomer having a pendant $-\text{CH}_2-\text{O}-(\text{CH}_2)_n-$ Rf group wherein Rf is described above.
2. A laminate according to claim 1 wherein a surface of said substrate has been printed at least one time.

3. A laminate according to claim 1, wherein a surface of said substrate has been embossed.

4. A laminate according to claim 1, wherein a surface of said substrate has been both printed and embossed.

5. A laminate according to claim 1, wherein the surface of said substrate includes a layer of plasticized vinyl chloride polymer.

6. A laminate according to claim 1, wherein said substrate comprises a cellulosic product, fibers, synthetic polymers, metal or ceramic.

7. A laminate according to claim 1, wherein said Rf group is independently a linear or branched perfluorinated alkyl group of 1 to 20 carbon atoms.

8. A laminate according to claim 7, wherein said hydroxyl terminated polymer includes repeat units from oxetanes and repeat units from tetrahydrofuran.

9. A laminate according to claim 7, wherein said second layer has the characteristic of being easily cleaned of undesired markings without using liquids.

10. The method which comprises;

1) applying to a substrate a layer of a catalyzed mixture of at least

a) one amino resin cross-linking agent and either

b1) a reactive polyester resin and

b2) a hydroxyl terminated polymer including repeat units from an oxetane having a pendant $-\text{CH}_2-\text{O}-(\text{CH}_2)_n-$ Rf group

or

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5 c) a reactive polyester resin including at least one repeat unit derived from copolymerizing into said polyester a hydroxyl terminated polymer including repeat units from an oxetane having a pendant $-\text{CH}_2-\text{O}-(\text{CH}_2)_n-$ Rf group, or combinations of a), b), and c)

2) subsequently heating said mixture to at least about 150°F for a period of time sufficient to cure and cross-link said layer, thereby providing a crosslinked layer,

10 wherein said Rf group, independently is a linear or branched alkyl group of 1 to 20 carbon atoms with a minimum of 25 percent of the hydrogens of said alkyl groups being replaced by F or said Rf group independently being an oxaperfluorinated or perfluorinated polyether having from 4 to 60 carbon atoms, and n being from 1 to 3.

11. A method according to claim 10, wherein said Rf of said repeat units is individually on said repeat units a perfluorinated alkyl having from 1 to 20 carbon atoms.

20 12. A method according to claim 10, where prior to applying said layer to said substrate, said substrate is printed at least one time.

13. A method according to claim 10, wherein said substrate comprises a cellulosic product, fibers, synthetic polymer, metal or ceramic.

25 14. A method according to claim 10, where prior to applying said layer to said substrate, said substrate is printed and embossed.

15. A method according to claim 10, wherein said substrate includes a layer of plasticized vinyl chloride polymer.

30 16. A method according to claim 15, wherein said vinyl chloride polymer is coated onto a fabric or backing.

11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Sub
P3

Sub
B3

17. A method according to claim 15, of forming a wallcovering.

18. A method according to claim 11 of forming a dry erase surface.

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19. A composition, comprising;

- a) at least one amino resin cross-linking agent and either
- b1) reactive polyester resin and
- b2) a hydroxyl terminated polymer including repeat units from an oxetane having a pendant $-\text{CH}_2-\text{O}-(\text{CH}_2)_n-\text{Rf}$ group,
- or
- c) a reactive polyester resin including therein at least one repeat unit derived from copolymerizing into said polyester a hydroxyl terminated polymer including repeat units from an oxetane having a pendant $-\text{CH}_2-\text{O}-(\text{CH}_2)_n-\text{Rf}$ group or combinations of a), b), and c)

wherein said pendant $-\text{CH}_2-\text{O}-(\text{CH}_2)_n-\text{Rf}$ group, independently, on different repeat units is a linear or branched alkyl group of 1 to 20 carbon atoms, a minimum of 25 percent of the hydrogen atoms of said alkyl group being replaced by F or said Rf group independently, being an oxaperfluorinated or perfluorinated polyether having from 4 to 60 carbon atoms, and n is from 1 to 3.

20. A composition according to claim 19, wherein Rf is said linear or branched alkyl group.

21. A composition according to claim 19, wherein said Rf is a linear or branched alkyl group of 3 to 10 carbon atoms.

22. A composition according to claim 19, wherein at least said amino resin and said polyester including repeat units from said

hydroxyl terminated polymer are reacted together to form a reaction product.

23. A composition according to claim 21, wherein at least said polyester, said hydroxyl terminated polymer, and said amino resin are reacted together to form a reaction product.

24. In an article including a substrate having a protective coating thereon, the improvement wherein the protective coating comprises

a) at least one amino resin cross-linking agent and either

b1) reactive polyester resin and

b2) a hydroxyl terminated polymer including repeat units from an oxetane having a pendant $-\text{CH}_2-\text{O}-(\text{CH}_2)_n-\text{Rf}$ group

or

c) a reactive polyester resin including therein at least one repeat unit derived from copolymerizing into said polyester a hydroxyl terminated polymer including repeat units from an oxetane having a pendant $-\text{CH}_2-\text{O}-(\text{CH}_2)_n-\text{Rf}$ group, or combinations of a), b), and c),

wherein said pendant $-\text{CH}_2-\text{O}-(\text{CH}_2)_n-\text{Rf}$ group independently on different repeat units is a linear or branched alkyl group of 1 to 20 carbon atoms and a minimum of 25 percent of the hydrogen atoms of said alkyl group being replaced by F or said Rf, independently, being an oxaperfluorinated or perfluorinated polyether having from 4 to 60 carbon atoms, and in being from 1 to 3.

25. In an article according to claim 24 wherein said a) and c) are reacted to form a crosslinked composition.

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Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
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